being given one-year courses which are either glorified A-level material or snippits from the degree syllabus.

Universities should really get themselves organized in deciding on a policy whereby science students should be allowed to get set straight into the type of work which they came to university to do, and then later have the opportunity to learn the basic principles of other subjects which will assist them in studying their particular line of work.

It is the university administrators who make the decisions on dismissing students, and academics who supply the courses. Maybe if there were more cooperation between the two, failure rates would go down.

Yours faithfully,

TUPPY OWENS

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McCarthy Report

SIR,—Surely there is a fundamental fallacy in equating the "demand for generalists" with the number of jobs in industry concerned with sales, production and management (*Nature*, **220**, 9; 1968). Whatever education a person in industry has had, he has a great deal to learn in the job. Someone who has studied one or two subjects in depth and has made parts of them his very own is far better equipped to tackle mysteries like market analysis or labour relations than is someone who has savoured four or five scientific or technical subjects, from which he will have obtained some laboratory expertise plus a wealth of ill-digested facts, many of which will soon be forgotten.

The attitudes of Oxford and Cambridge towards specialization in scientific education have always differed sharply. This is a most important inter-university contest. I write as a Cambridge man who thinks that Oxford may have got something.

I do not know, Sir, what makes you think that the record of our engineers for education on the job is "no doubt lamentable" compared with engineers of the state of California. Since no figures are available, such an impression must be subjective. This is confirmed by my own experience when I attended a management course some years ago.

Yours faithfully,

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Spectral Conformity

SIR,—I have read with interest the two communications by H. F. Launer on the interesting phenomenon he calls spectral conformity (*Nature*, **218**, 160; 1968).

I would like to draw attention to the fact that the phenomenon has already been described. As long ago as 1895, Wiener[1] observed that the colour of silver chloride darkening in light resembles the colour of light which has been used in the experiment. As a matter of fact Wiener tried to use this phenomenon in the first attempt at what could be called colour photography.

During the two decades between 1920 and 1940, F. Weigert, a lone scientist at the University of Leipzig, published some fifty important papers on this phenomenon. Not only the colour but also the plane of polarization was found to be followed by the extinction in gelatine sheets of innumerable organic dyes. As a matter of fact, this enabled Weigert[2] to follow the effect with the utmost accuracy because changes in circular dichroism could be measured much more easily and accurately than extinction. He later concentrated on experiments on gelatine sheets containing visual purple and found that this important dye followed the colour of impinging light with great precision and "mixed" the effect of two differently coloured illuminations exactly as we see it subjectively with our eyes. He later fled from Hitler to the USA and his work influenced the epoch-making discoveries of G. Wald on the photochemistry of rhodopsine. The photochemical reaction is nearly certainly a series of *cis–trans* isomerizations of the carotenoid in the visual pigment.

With the ever increasing volume of scientific literature published it is impossible occasionally not to miss important facts, and this note is in no way intended to diminish the importance of Dr Launer's findings. Perhaps it may help to set them into a more general framework.

Yours faithfully,

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[1] Wiener, O., *Ann. d. Physik.*, **55**, 225 (1895).
[2] See, for example, Weigert, F., *Ann. d. Physik.*, **63**, 691 (1920); *Naturwissenschaften*, **9**, 583 (1921); *Nature*, **146**, 31 (1940); *Proc. VIth Summer Conference on Spectroscopy*, 134 (Wiley, New York, 1939).

New Names

SIR,—The introduction of new words to scientific language is laudable provided new ideas not previously comprehended in a single word are conveyed by authors.

A new word, haplotypes, has made its appearance in your journal[1] after a debut in the *Lancet*[2] where it was defined to mean "the genetic determinants present on a single chromosome". This new word is used in both articles with reference to the genetic determinants of certain blood group (leucocyte) antigens. It would seem that nothing more or less than is implied by the word genotype has been conveyed by the authors. The use of well established words[3] for well established ideas has much to commend it. Genotype can be used freely for the haploid, diploid or polyploid state. The meaning should be clear to both serologists and geneticists.

Yours faithfully,

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[1] Svejgaard, A., and Kissmeyer-Neilsen, F., *Nature*, **219**, 868 (1968).
[2] Mogensen, B., and Kissmeyer-Neilsen, F., *Lancet*, i, 721 (1968).
[3] Race, R., and Sanger, R., in *Blood Groups in Man*, second ed. (Blackwell, Oxford, 1954).

How to Measure Populations

SIR,—Recently you drew attention to the problem of genetically analysing the remaining isolated human populations (*Nature*, **218**, 1005; 1968). I believe, however, that the worst accusation that our descendants will hold against us concerns another but connected neglect: the lack of complete and detailed records of the sociological patterns of such isolated populations. The patterns of social life in these isolated populations will change almost immediately after contact with new social ideas. In the future therefore there will be no access to independent examples of social organization and no record of how they satisfied the fundamental psychological needs of human beings. I believe a stable future for our descendants will depend on how well they can incorporate such knowledge in the organization of the world community. Should we not try to reallocate science funds so that sociology receives much more support and a fair chance to become a real science helping mankind to a better future ?

Yours faithfully,

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